



# Purchase Contract

(hereafter the “Contract”)

## 1. CONTRACTUAL PARTIES

### 1.1 Fyzikální ústav AV ČR, v. v. i.,

with seat: Na Slovance 1999/2, 182 21 Praha 8, Czech Republic  
represented by: RNDr. Michael Prouza, Ph.D., Director,  
registered in the Register of public research institutions of the Ministry of Education, Youth and Sports  
of the Czech Republic.

ID No.: 68378271

Tax ID No.: CZ68378271

Bank: [REDACTED]

Account No. IBAN: [REDACTED]; SWIFT (BIC): [REDACTED]

(hereinafter the “Buyer”)

and

### 1.2 FARSOON Europe GmbH,

with seat: Liebknechtstraße 33, D-70565 Stuttgart, Germany,  
represented by: Dr. Dirk Simon, Managing Director (Geschäftsführer),  
registered at Local Court of Stuttgart, Germany.

ID No.: HRB 765216

Tax ID No.: DE318382585

Bank: [REDACTED]

Account No. IBAN: [REDACTED]; SWIFT (BIC): [REDACTED]

(hereinafter the “Seller”),

(the Buyer and the Seller are hereinafter jointly referred to as the “Parties” and each of them  
individually as a “Party”).





## 2. FUNDAMENTAL PROVISIONS

- 2.1 The Buyer is a beneficiary of the subsidy project Reg. No. CZ.01.1.02/0.0/0.0/20\_330/0023431 entitled "**Brain 4 Industry - Innovation centre**" (hereinafter referred to as the "**Project**"), within the framework of the Operational Programme Enterprise and Innovation for Competitiveness (hereinafter referred to as "**OP EIC**"). In order to successfully implement the Project, it is necessary to purchase the subject of performance according to this Contract (as defined below).
- 2.2 The subject of performance under this Contract is mainly financed from the subsidy of the Project for which it is intended.
- 2.3 The Buyer wishes to acquire the subject of performance hereof in order to create three-dimensional metal and polymer objects from a CAD model or a digital 3D model.
- 2.4 The Seller was selected as the winner of a public procurement procedure announced by the Buyer in accordance with Act No. 134/2016 Coll., on Public Procurement, as amended (hereinafter the "**Act**"), for the public contract called "**System of equipment for additive manufacturing using the SLM and SLS technologies**" (hereinafter the "**Procurement Procedure**").
- 2.5 The documentation necessary for the execution of the subject of performance hereof consist of
- 2.5.1 **Technical specifications** of the subject of performance hereof attached as **Annex No. 1** hereto.
- 2.5.2 The Seller's bid submitted within the Procurement Procedure in its parts which describe the subject of performance in technical detail (hereinafter the "**Sellers's Bid**"); the Sellers's Bid forms **Annex No. 2** to this Contract and is an integral part hereof.

In the event of a conflict between the Contract's Annexes, the technical specification / requirement of the higher level / quality shall prevail.

- 2.6 The Seller declares that he has all the professional prerequisites required for the supply of the subject of performance under this Contract, is authorised to supply the subject of performance and there exist no obstacles on the part of the Seller that would prevent him from supplying the subject of this Contract to the Buyer.
- 2.7 The Seller acknowledges that the Buyer considers him capable of providing performance under the Contract with such knowledge, diligence and care that is associated and expected of the Seller's profession, and that the Seller's potential performance lacking such professional care would give rise to corresponding liability on the Seller's part. The Seller is prohibited from misusing his qualities as the expert or his economic position in order to create or exploit dependency of the weaker Party or to establish an unjustified imbalance in the mutual rights and obligation of the Parties.
- 2.8 The Seller acknowledges that the production and delivery of the subject of performance within the specified time and of the specified quality, as shown in Annexes No. 1 and 2 of this Contract (including



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invoicing), is essential for the Buyer. If the Seller does not fulfil the contractual requirements, the Buyer may incur damages.

- 2.9 The Parties declare that they shall maintain confidentiality with respect to all facts and information, which they learn in connection herewith and / or during performance hereunder, and whose disclosure could cause damage to either Party. Confidentiality provisions do not prejudice obligations arising from valid legislation.

### 3. SUBJECT-MATTER OF THE CONTRACT

- 3.1 The subject of this Contract is the obligation on the part of the Seller to deliver and transfer into the Buyer's ownership:

the **System of equipment for additive manufacturing using the SLM and SLS technologies**

(hereafter the **"Equipment"**)

and the Buyer undertakes to take delivery of the Equipment and to pay to the Seller the agreed upon price.

- 3.2 The Equipment consists of

- 3.2.1 a Selective Laser Melting printer with accessories,
- 3.2.2 a Selective Laser Sintering printer with accessories,
- 3.2.3 common accessories of both printers

and is specified in detail in Annexes No. 1 and No. 2 hereto.

- 3.3 The following activities form an integral part of the performance to be provided by the Seller:

- 3.3.1 Formulation of conditions which are recommended to be met at the place of Buyer in order to install the Equipment and submission of a list containing all these conditions;
- 3.3.2 Transport of the Equipment incl. all accessories specified in Annexes 1 and 2 of the Contract to the place of delivery, un-packaging and control thereof;
- 3.3.3 Installation of the Equipment and all components necessary to operate the Equipment including connection to installation infrastructure at the site;
- 3.3.4 Execution of the acceptance tests:
  - Operation of the Equipment within specification given in Annex No. 2 hereto, eventually other technical documents pertaining to the Equipment;



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- Manufacture of a test print with parameters according to Annex No. 4 of this Contract, using both technologies.

3.3.5 Delivery of detailed instructions and manuals for operation and maintenance, including list of spare parts, electrical connection schemes, etc. - all in Czech or English language, in electronic or hardcopy (printed) versions;

3.3.6 Training of operators at the site (at least 2 full days of training of 3 operators for each technology);

3.3.7 Free-of-charge warranty service during the warranty term;

3.3.8 Provision of free technical support in the form of consultations, e.g. regarding fine tuning of the Equipment. The Seller shall provide the Buyer with this free support even after the warranty expires.

3.4 The Seller shall be liable for the Equipment and related services to be in full compliance with this Contract, its Annexes and all valid legal regulation, technical and quality standards and that the Buyer will be able to use the Equipment for the defined purpose. In case of any conflict between applicable standards it is understood that the stricter standard or its part shall always apply.

3.5 The delivered Equipment and all its parts and accessories must be brand new and unused.

#### **4. PERFORMANCE PERIOD**

4.1 The Seller undertakes to deliver and hand over the Equipment to the Buyer within **4 months** of the conclusion of the Contract.

4.2 The Seller is obliged to notify the Buyer of the date of delivery and installation of the Equipment at least 2 weeks in advance. This term is subject to the consent of the Buyer.

4.3 The performance period shall be extended by a period during which the Seller could not perform due to obstacles on the part of the Buyer.

4.4 In the event that, due to obstacles on the part of the Buyer, it is not possible to deliver and hand over the Equipment on the agreed date or within the period according to Section 4.1, the Seller is not entitled to claim payment of any additional costs against the Buyer.

#### **5. PURCHASE PRICE, INVOICING, PAYMENTS**

5.1 The purchase price is based on the Seller's submitted bid and amounts to **649.900,- EUR** (in words: six hundred forty nine thousand nine hundred Euros) excluding VAT (hereinafter the "**Price**"). VAT shall be settled in accordance with the valid Czech regulation.



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- 5.2 The Price includes any and all performance provided by the Seller in connection with meeting the Buyer's requirements for the proper and complete delivery of the Equipment hereunder, as well as all costs that the Seller may incur in connection with the delivery, installation and testing of the Equipment upon handover, and including all other costs or expenses that may arise in connection with creation of an intellectual property and its protection.
- 5.3 The Parties agreed that the Seller shall be entitled to invoice the Price as follows:
- 5.3.1 The Seller is entitled to issue an advance invoice corresponding to 30 % of the Price excluding VAT after the conclusion of the Contract.
- 5.3.2 The Seller is entitled to invoice the rest of the Price after the handover protocol in accordance with Section 10.4 (hereinafter the "**Handover Protocol**") will have been signed. In case the Equipment will be delivered with minor defects, the Price shall be invoiced after removal of these minor defects.
- 5.4 All invoices issued by the Seller must contain all information required by the applicable laws of the Czech Republic. Invoices issued by the Seller in accordance with this Contract shall contain in particular following information:
- 5.4.1 name and registered office of the Buyer,
- 5.4.2 tax identification number of the Buyer,
- 5.4.3 name and registered office of the Seller,
- 5.4.4 tax identification number of the Seller,
- 5.4.5 registration number of the tax document (invoice),
- 5.4.6 scope of the performance (including the reference to this Contract),
- 5.4.7 the date of the issue of the tax document (invoice),
- 5.4.8 the date of the conclusion of the Contract,
- 5.4.9 purchase Price,
- 5.4.10 registration number of this Contract, which the Buyer shall communicate to the Seller based on Seller's request before the issuance of the invoice,
- 5.4.11 information that the Equipment is supplied for the purposes of the "Brain 4 Industry - Innovation centre" project, Reg. No. CZ.01.1.02/0.0/0.0/20\_330/0023431

and must comply with the double taxation agreements, if applicable.



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- 5.5 The Buyer prefers electronic invoicing with the invoices being delivered to [efaktury@fzu.cz](mailto:efaktury@fzu.cz).
- 5.6 Invoices shall be payable within thirty (30) days of the date of their delivery to the Buyer. Payment of the invoiced amount means the date of its remittance to the Seller's account.
- 5.7 If an invoice is not issued in conformity with the payment terms stipulated by the Contract or if it does not comply with the requirements stipulated by law, the Buyer shall be entitled to return the invoice to the Seller as incomplete, or incorrectly issued, for correction or issue of a new invoice, as appropriate, within five (5) business days of the date of its delivery to the Buyer. In such a case, the Buyer shall not be in delay with the payment of the Price or part thereof and the Seller shall issue a corrected invoice with a new and identical maturity period commencing on the date of delivery of the corrected or newly issued invoice to the Buyer.
- 5.8 The Buyer shall be entitled to unilaterally set off any of his payments against any receivables claimed by the Seller due to:
- 5.8.1 damages caused by the Seller,
  - 5.8.2 contractual penalties.
- 5.9 The Seller shall not be entitled to set off any of his receivables against any part of the Buyer's receivable hereunder.

## 6. **OWNERSHIP TITLE**

The ownership right to the Equipment shall pass to the Buyer by delivery.

## 7. **PLACE OF DELIVERY AND HANDOVER**

The place of delivery and handover of the Equipment shall be rooms in the 1st above-ground floor and 1st underground floor of the "Brain 4 Industry" building of the Institute of Physics of the Czech Academy of Sciences at Za Radnicí street, Dolní Břežany, Czech Republic.

## 8. **NOTIFICATION OF DELIVERY**

- 8.1 The Seller shall notify the Buyer in writing of the exact date of delivery of the Equipment in advance and in the manner according to Section 4.2, ensuring that the deadline for the performance hereunder is maintained.
- 8.2 The Seller is obliged to notify the Buyer of the unsatisfactory state of readiness of the place of delivery and installation, if possible.



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## 9. COOPERATION OF THE PARTIES

The Seller undertakes to notify the Buyer of any obstacles on his part, which may negatively influence proper and timely delivery and/or handover of the Equipment.

## 10. DELIVERY, INSTALLATION, HANDOVER AND ACCEPTANCE

10.1 The Seller shall transport the Equipment at his own cost to the place of delivery and handover. If the shipment is intact, the Buyer shall issue delivery note for the Seller.

10.2 The Seller shall perform and document the installation of the Equipment and launch experimental tests in order to verify whether the Equipment is functional and meets the technical requirements of Annexes No. 1 and 2 hereof.

10.3 Handover procedure includes handover of any and all technical documentation pertaining to the Equipment, user manuals and certificate of compliance of the Equipment and all its parts and accessories with approved standards.

10.4 The handover procedure shall be completed by handover of the Equipment confirmed by the Handover Protocol containing specifications of all performed tests. The Handover Protocol shall contain the following mandatory information:

10.4.1 Information about the Seller, the Buyer and any subcontractors;

10.4.2 Description of the Equipment including description of all components and their serial / production numbers;

10.4.3 Description of executed tests according to Section 3.3.4 of the Contract and their results;

10.4.4 List of technical documentation including the manuals;

10.4.5 Confirmation of the training, including a list of participants and information on its extent;

10.4.6 Eventually reservation of the Buyer regarding minor defects including the manner and deadline for their removal and

10.4.7 Date of signature of the Handover Protocol.

10.5 Handover of the Equipment does not release the Seller from liability for damage caused by its defects.

10.6 The Buyer shall not be obliged to accept Equipment, which would show defects (even those that do not - on their own or in connection with other defects - constitute an obstacle to the use of the Equipment). In this case, the Buyer shall issue a record containing the reason for his refusal to accept the Equipment.



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10.7 Should the Buyer not exercise his right not to accept the Equipment with a defect, the Seller and the Buyer shall list all defects found in the Handover Protocol, including the manner and deadline for their removal. Should the Parties not be able to agree in the Handover Protocol on the deadline for removal of the defects, it shall be understood that all above shall be removed / rectified within 10 days from the handover of the Equipment.

## 11. REPRESENTATIVES, NOTICES

11.1 The Seller authorized the following representatives to communicate with the Buyer in all matters relating to the Equipment delivery and handover:



11.2 The Buyer authorized the following representatives to communicate with the Seller in all matters relating to the Equipment delivery and handover:



11.3 The representatives according to Sections 11.1 and 11.2 can be changed by a unilateral written declaration of the Party delivered to the other Party.

11.4 All notifications to be made between the Parties hereunder must be made out in writing and delivered to the other Party by hand (with confirmed receipt) or by registered post (to the Buyer's or Seller's address), or in some other form of registered post or electronic delivery incorporating electronic signature (qualified certificate) to [epodatelna@fzu.cz](mailto:epodatelna@fzu.cz) in case of the Buyer and to [REDACTED] with CC to [REDACTED] in case of the Seller.

11.5 In all technical and expert matters (discussions on the Equipment testing, notification of the need to provide warranty or post-warranty service, technical assistance etc.), electronic communication between technical representatives of the Parties will be acceptable using e-mail addresses defined in Sections 11.1 and 11.2.

## 12. TERMINATION

12.1 This Contract may be terminated early by agreement of the Parties or withdrawal from the Contract on the grounds stipulated by law or in the Contract.

12.2 The Buyer is entitled to withdraw from the Contract without any penalty from the Seller in any of the following events:



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- 12.2.1 The Seller is in delay with the delivery of the Equipment longer than 2 weeks after the date pursuant to Section 4.1 hereof.
  - 12.2.2 The seller is more than 2 weeks in delay with the removal of Equipment defects listed in the list of detected defects of the Handover Protocol according to Section 10.7.
  - 12.2.3 The technical parameters or other conditions set out in the technical specifications defined in Annexes 1 and 2 to this Contract and in the relevant applicable technical standards will not be met by the Equipment at handover.
  - 12.2.4 Facts emerge bearing evidence that the Seller will not be able to deliver the Equipment.
  - 12.2.5 The Seller has breached the obligations specified within the conditions of the Procurement Procedure, in particular the obligations arising from the affidavit which forms Annex No. 3 to this Contract.
- 12.3 The Seller is entitled to withdraw from the Contract in the event of the Buyer being in default with the payment for more than 1 month with the exception of the cases when the Buyer refused an invoice due to defect on the delivered Equipment or due to breach of the Contract by the Seller.
- 12.4 Withdrawal from the Contract becomes effective on the day the written notification to that effect is delivered to the other Party. The Party which had received performance from the other Party prior to such withdrawal shall duly return such performance.
- 12.5 In the event of early termination of the Contract, the Seller is obliged to ensure the removal of the Equipment from the place of performance within 30 days from the date on which withdrawal from the Contract became effective. The removal of the Equipment must be preceded by the return of the advance payment according to Section 5.3.1 (or any already paid part of the Price) to the Buyer's account. The Buyer will provide the Seller with the necessary cooperation similar to the cooperation during the installation of the Equipment. The cost of removal shall be paid by the Party which caused the premature termination of the Contract by breaching it.

### 13. **INSURANCE**

- 13.1 The Seller undertakes to insure the Equipment against all risks, in the amount of the Price for the entire period commencing when transport of the Equipment starts until duly handed over to the Buyer. In case of breach of this obligation, the Seller shall be liable to the Buyer for any damage that may arise in connection thereof.
- 13.2 The Seller is liable for the damage that he has caused. The Seller is also liable for damage caused by third parties undertaken to carry out performance or its part under this Contract.



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## 14. WARRANTY TERMS

- 14.1 The Seller shall provide warranty for the quality of the Equipment for a period of **12 months**.
- 14.2 The warranty period shall commence on the day following the date of signing of the Handover Protocol pursuant to Section 10.4 hereof. The warranty does not cover consumable parts. Consumable parts for the purposes of the Contract are understood as items contained within the Equipment, which are consumed at regular intervals during the normal use of the Equipment, i.e. parts which have a defined typical lifetime, that does not exceed the warranty period provided the Equipment is used with normal frequency.
- 14.3 The Seller undertakes to provide free Equipment service through authorized technicians and free regular service inspection at the place of handover of the Equipment to the extent specified by the Equipment manufacturer and by the Contract for the entire warranty period according to this Contract, including repairs, delivery of spare parts, transport and work of an authorized service technician.
- 14.4 Should the Buyer discover a defect, he shall notify the Seller to rectify such defect using the e-mail address: [REDACTED]. The Seller is obliged to notify the Buyer without delay about any change of this e-mail address. The Seller shall be obliged to review any warranty claim within 48 hours (within business days) from its receipt and to propose solution. In case the nature of the claimed defect requires to be dealt with by a qualified technician, such person must be sent and must appear at the place of delivery and handover of the Equipment within 7 business days from receipt of the above-mentioned warranty claim. All the above remains in effect unless agreed otherwise by the Parties.
- 14.5 During the warranty period, the Seller shall be obliged to rectify any claimed defects within 30 days from receipt of the Buyer's notification. In cases of unusual defects, the Seller shall be obliged to rectify the defect in the period corresponding to the nature of the defect and to define the deadline for the handover of the rectified Equipment.
- 14.6 During the warranty period, any and all costs associated with defect rectification / repair including transport and travel expenses of the Seller shall be always borne by the Seller.
- 14.7 The repaired Equipment shall be handed over by the Seller to the Buyer on the basis of a protocol confirming removal of the defect (hereinafter the "**Repair Protocol**"). If the Equipment is delivered duly repaired and defect-free, the Buyer will confirm the Repair Protocol.
- 14.8 The repaired portion of the Equipment shall be subject to a new warranty term in accordance with Section 14.1 which commences to run on the day following the date when the Repair Protocol was executed.
- 14.9 The Seller declares that he shall ensure paid post-warranty [out-of-warranty] service for the period of 7 years after the expiration of the warranty; the service terms shall be identical to those of Sections 14.4 and 14.5.



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14.10 The Seller undertakes to provide the Buyer with updates of the software controlling the Equipment for the entire term of warranty. The Seller undertakes to provide the Buyer with these updates even after the expiry of the warranty, at least until the expiry of 10 years from the date of handover of the Equipment according to Section 10.4,

14.10.1 free of charge in the case of updates that are necessary for the reliable operation of the Equipment and

14.10.2 at a price not exceeding the usual price in the case of updates that would add new functions.

14.11 If the Equipment (or its part according to Section 3.2.1 or 3.2.2) has defects, due to which it cannot be demonstrably used in full for more than 60 days (period of defects) during six or less consecutive months of the warranty period, the Seller is obliged to deliver new Equipment (or its part) without defects within 120 days from the date on which the Buyer sent a written notice, unless the Parties agree otherwise.

## 15. CONTRACTUAL PENALTIES

15.1 The Buyer shall have the right to a penalty in the amount of 0.05 % of the Price for each commenced day of delay with the performance pursuant to Section 4.1 hereof.

15.2 The Buyer shall have the right to a penalty in the amount of 0.05 % of the Price for each commenced day of delay with the performance pursuant to Section 14.4 hereof and with rectifying of defects claimed within the warranty period pursuant to Section 14.5 and 14.11 hereof.

15.3 In case of default in payment of any due receivables (monetary debt) under the Contract, the defaulting Buyer or Seller (the debtor) shall be obliged to pay a contractual penalty in the amount of 0.1 % of the owed amount for each commenced day of delay with the payment.

15.4 Contractual penalties are payable within 30 days of notification demanding payment thereof.

15.5 Payment of the contractual penalty does not prejudice the rights of the Parties to claim damages.

15.6 Payment of any contractual penalty cannot be demanded if the breach of the contractual obligation causes force majeure.

## 16. DISPUTES

Any and all disputes arising out of this Contract, or the legal relationships connected with the Contract shall be resolved by the Parties by mutual negotiations. In the event that any dispute cannot be resolved by negotiations within sixty (60) days, the dispute shall be resolved by the competent court in the Czech Republic based on application of any of the Parties; the court having jurisdiction will be the court where the seat of the Buyer is located. Disputes shall be resolved exclusively by the law of the Czech Republic.



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## 17. ACCEPTANCE OF THE PROJECT RULES

The Seller, using all necessary professional care, shall cooperate during financial inspections carried out in accordance with Act No. 320/2001 Coll., on Financial Inspections, as amended, or during other financial inspections carried out by any auditing entities (particularly by the Managing Authority of the OP EIC) and shall allow access also to those portions of the bid submitted within the Procurement Procedure, the Contract and related documents which may be protected by special legal regulation, given that all requirements set forth by legal regulation with respect to the manner of executing such inspections will have been observed.

## 18. FINAL PROVISIONS

18.1 This Contract represents the entire agreement between the Buyer and the Seller. The relationships between the Parties not regulated in this Contract shall be governed by Czech law, in particular by the Act No. 89/2012 Coll., the Civil Code, as amended (hereinafter the “**Civil Code**”).

18.2 This Contract may be changed or supplemented solely by means of numbered amendments in writing, furnished with the details of time and place and signed by duly authorised representatives of the Parties. The Parties expressly reject modifications to the Contract in any other manner.

18.3 The Parties expressly agree that the Contract as a whole, including all attachments and data on the Parties, subject-matter of the Contract, numerical designation of this Contract, the Price and the date of the Contract conclusion, will be published in accordance with Act No. 340/2015 Coll. on special conditions for the effectiveness of some contracts, publication of these contracts and Contract Register, as amended (hereinafter the “**CRA**”). The Parties hereby declare that all information contained in the Contract and its Annexes is not considered trade secrets under § 504 of the Civil Code and grant permission for their use and disclosure without setting any additional conditions.

18.4 The Parties agree that the Buyer shall ensure the publication of the Contract in the Contract Register in accordance with CRA.

18.5 This Contract becomes effective as of the day of its publication in the Contract Register.

18.6 The following Annexes form an integral part of the Contract:

Annex No. 1: Technical specification on the subject of performance

Annex No. 2: Technical description of the Equipment as presented in Seller’s bid

Annex No. 3: Affidavit according to § 6 paragraph 4 of the Act No. 134/2016 Coll.

Annex No. 4: Test print parameters



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18.7 The Parties, manifesting their consent with the entire contents of this Contract, attach their signature hereunder.

In Prague

In Stuttgart

For the Buyer:

For the Seller:

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RNDr. Michael Prouza, Ph.D.  
Director

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Dr. Dirk Simon  
Managing Director



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Annex No. 1 - Technical specification on the subject of performance

Tab. 1 - The Equipment must meet the technical conditions and include components listed in this table.

No.	Description and minimum specification of the Equipment as defined by the Buyer	Description and specification of the Equipment offered by the Seller
	<b>A. SLM printing equipment</b>	
1	<b>3D printing equipment using the following technology:</b> Selective Laser Melting – SLM – joining of powder material using a laser beam as a source of heat	Farsoon offers the system FS301M-2, which is using Selective Laser Melting (SLM Technology) with laser beam as a source of heat for processing various metallic powders.
2	<b>Materials supported:</b> - reactive metallic materials - non-reactive metallic materials	System FS301M-2 is capable for produce the metallic parts from following kinds of powders, which includes reactive and non-reactive powders: 316L, 17-4PH, 15-5PH, 420, 18Ni300, AlSi10Mg, TA15, CoCrMoW, CoCrMo, Ti6Al4V, IN625, IN718, GH3536, CuSn10 and pure Cu



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Required technology components and accessories	
3	<p><b>PRINTER</b></p> <ul style="list-style-type: none"> <li>- fully open machine parameters with the possibility of editing and developing new parameter sets and new materials</li> <li>- print volume of at least 35 000 cm<sup>3</sup></li> <li>- printing platform dimensions: X ≥ 300 mm Y ≥ 300 mm</li> <li>- laser scanning speed: ≥ 12 m/s</li> <li>- laser power: ≥ 450 W</li> <li>- number of lasers: min. 2</li> <li>- all lasers with full print area coverage</li> <li>- laser type: fiber infrared laser</li> <li>- laser beam diameter must reach at least one of the following values: 55±15 μm or 90±20 μm</li> <li>- printing chamber heating: min. 180 °C</li> <li>- communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485</li> <li>- industrial communication protocol support: OPC UA</li> <li>- two-way communication for reading live data from the printer and remote adjustment of process parameters such as chamber temperature, working gas flow, laser power, laser speed etc.</li> <li>- camera for remote control of the build process</li> </ul>

Farsoon has the “Open For Industry” business strategy, which means that Farsoon offers “open system” to customers.

- FS301M-2 provide (free of charge) open machine parameters with possibility of editing and developing new parameter sets and new materials.
- FS301M-2 has the print platform dimensions with 305 mm x 305 mm and maximal build height with 410 mm (incl. base plate height), which means a build cylinder volume of 36 000 cm<sup>3</sup>.
- FS301M-2 is equipped with two scanners with speed of up to 15 m/s
- FS301M-2 is equipped with 2 x 500 W fiber laser (dual laser)
- Both lasers can cover the full print area
- Both lasers beam diameter are 70-200 μm, adjustable.
- Build plate can be heated up to 200°C
- Communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS485
- Industrial communication protocol support: OPC UA
- The process parameters such as build plate temperature, gas flow, oxygen content, laser power, etc. can be read, monitored and protocoled.
- FS301M-2 is equipped with manual and automatic control mode; real-time build parameter modification; three-dimensional visualization; optical camera; diagnostic functions



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4	<b>DEVICE FOR AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER</b> <ul style="list-style-type: none"><li>- vibration-based sieving</li><li>- support for sieves with a hole diameter of <math>63 \pm 15 \mu\text{m}</math></li><li>- support for sieves with different hole diameters</li></ul>	Farsoon offers the powder sieving station (FS-S-02M): <ul style="list-style-type: none"><li>- is a vibration-based sieving station for metal powders</li><li>- support for sieves with a mesh size of <math>75 \pm 10 \mu\text{m}</math>.</li><li>- support for sieves with different hole diameters, which means the mesh size is changeable.</li><li>- For safety with reactive metal powders, the powder sieving station is equipped with oxygen sensors.</li></ul>
5	<b>COOLING SYSTEM</b> <ul style="list-style-type: none"><li>- for cooling of the production system</li><li>- with sufficient performance for the SLM technology</li></ul>	Farsoon offers the cooling unit for FS301M-2 for cooling the lasers and the scanners. The cooling unit is sufficient for Farsoon FS301M-2 system with two lasers.
6	<b>PERIPHERALS</b> <ul style="list-style-type: none"><li>- industrial vacuum cleaner</li><li>- device for moving material and technology components around the workplace with an integrated battery for propulsion</li></ul>	The Farsoon offered an industrial wet-type anti-explosion vacuum cleaner, which is suitable for removing and cleaning the reactive and non-reactive metallic powders.  Farsoon offers a semi-electric forklift specific for FS301M, which is capable to move and transport the powder tanks and components.
7	<b>CONSUMABLES</b> <ul style="list-style-type: none"><li>- consumables required for the operation of the technology at least for a period of 6 months of continuous operation (filters, etc.)</li></ul>	Farsoon offers consumables, incl. one kit for preventive maintenance, sufficient for 6 months operation. In general, Farsoon recommends that Buyer orders extended preventive maintenance service for replacement of specific consumable parts 12 months after installation.



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8	<p><b>SOFTWARE</b></p> <ul style="list-style-type: none"> <li>- software for processing STL data</li> <li>- software for preparation and remote transfer of print data to the printer</li> <li>- software / tool for the preparation of parameter sets for the development of printing parameters for new materials</li> <li>- site license for all software supplied (SW can be installed on an unlimited number of computers, as long as they're at the Buyer's location) for the entire warranty period</li> <li>- free updates of the supplied software for the entire warranty period</li> </ul>	<p>Farsoon offers the own-developed software solutions MakeStar and BuildStar:</p> <ul style="list-style-type: none"> <li>- Farsoon MakeStar/BuildStar is capable to process STL data</li> <li>- Farsoon MakeStar/BuildStar can prepare and transfer data to printer.</li> <li>- Farsoon MakeStar/BuildStar has the function for preparing the parameter sets and is suitable for changing and developing the print parameter for new materials.</li> <li>- Farsoon offers one (1) MakeStar/BuildStar license for the computer of the FS301M-2 machine and further more five (5) MakeStar/BuildStar licenses for use on individual PCs. All licenses are infinite/permanent.</li> </ul>
9	<p><b>PROTECTIVE EQUIPMENT</b></p> <ul style="list-style-type: none"> <li>- protective equipment for 2 persons (respiratory protection, eye protection, skin protection)</li> </ul>	<p>Farsoon offers personal protective equipment, such as disposable plastic gloves, anti-static gloves, safety goggles etc. These devices will be delivered with the system.</p>
<b>B. SLS printing equipment</b>		
10	<p><b>3D printing equipment using the following technology:</b>            Selective Laser Sintering – SLS – joining of powder material using a laser beam as a source of heat</p>	<p>Farsoon offers the system Flight ST252P, which is using Selective Laser Sintering (SLS Technology) with a laser beam as a source of heat for processing various polymer powders.</p>
11	<p><b>Materials supported (without the need to use material from a specific manufacturer):</b></p> <ul style="list-style-type: none"> <li>- Polyamide 12</li> <li>- Polyamide 11</li> <li>- TPU (Thermoplastic polyurethane)</li> </ul>	<p>Farsoon Flight ST252P is suitable to print parts from plastic powders susceptible to heat-up by fiber lasers (typically black powders):</p> <ul style="list-style-type: none"> <li>- Polyamide 12</li> <li>- Polyamide 11</li> <li>- TPU (Thermoplastic polyurethane)</li> </ul> <p>Moreover:</p> <ul style="list-style-type: none"> <li>- PP, PBT, PA6, PA613, PA66, PBT, PPS is processable</li> </ul>



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Required technology components and accessories		
12	<p><b>PRINTER</b></p> <ul style="list-style-type: none"> <li>- fully open machine parameters with the possibility of editing and developing new parameter sets and new materials</li> <li>- print volume of at least 19 000 cm<sup>3</sup></li> <li>- printing platform dimensions: X ≥ 200 mm Y ≥ 200 mm</li> <li>- laser scanning speed: ≥ 10 m/s</li> <li>- laser type: fiber laser</li> <li>- laser beam diameter must reach at least one of the following values: 70±15 μm, 90±20 μm or 110±20 μm</li> <li>- printing chamber heating: min. 250 °C</li> <li>- communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485</li> <li>- industrial communication protocol support: OPC UA</li> <li>- two-way communication for reading live data from the printer and remote adjustment of process parameters such as chamber temperature, working gas flow, laser power, laser speed etc.</li> <li>- camera for remote control of the construction process</li> </ul>	<p>Farsoon has the “Open For Industry” business strategy, which means that Farsoon offers “open systems” to customers.</p> <ul style="list-style-type: none"> <li>- Flight ST252P provides (free of charge) open machine parameters with possibility of editing and developing new parameter sets and new materials.</li> <li>- Flight ST252P has the print platform dimensions with 250 mm x 250 mm and maximal build height with 320 mm. the build cylinder volume is 20 000 cm<sup>3</sup></li> <li>- Flight ST252P is equipped with high scanning speed up to <u>20 m/s</u></li> <li>- Flight ST252P is equipped with 300 W fiber laser</li> <li>- Laser beam diameter is 200 - 500 μm, adjustable (it is possible to tune the laser beam diameter to 110 - 130 μm but the machine will not work with maximum precision and efficiency)</li> <li>- Powder bed temperature and build cylinder can be heated up to 280°C</li> <li>- Communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS485</li> <li>- Industrial communication protocol support: OPC UA</li> <li>- The process parameter such as chamber temperature, oxygen percentage, laser power, etc. can be read, monitored and protocolled.</li> <li>- Flight ST252P is equipped with manual and automatic control mode; real-time build parameter modification; three-dimensional visualization; diagnostic functions.</li> <li>- The system has an optical camera</li> </ul>
13	<p><b>CHAMBER FOR REMOVING EXCESS POWDER</b></p> <ul style="list-style-type: none"> <li>- removing excess powder from printed parts using compressed air and hand tools (e.g. brushes)</li> <li>- chamber must be dustproof</li> </ul>	<p>Farsoon offers a Breakout station for removing excess powder using compressed air and hand tools. There is a cover in the station, which acts as isolation and protection against dust.</p>



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14	<p>AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER</p> <ul style="list-style-type: none"> <li>- separate machine or built-in feature into another machine of SLS printing equipment</li> <li>- vibration-based sieving</li> <li>- collecting the used powder for re-using</li> </ul>	<p>The Farsoon offered Breakout station is equipped with a sieving device. The sieving device can sieve and collect the powder for powder recycling use.</p>
15	<p>DEVICE FOR BLENDING USED AND VIRGIN POWDER</p> <ul style="list-style-type: none"> <li>- blending volume at least 40 kg per one run</li> </ul>	<p>Farsoon offers the Blender mixer for mixing the virgin powder and reused powder. The capacity of the mixer is <math>\geq 40</math> kg per one time.</p>
16	<p>COOLING SYSTEM</p> <ul style="list-style-type: none"> <li>- for cooling of the production system</li> <li>- with sufficient performance for the SLS technology</li> </ul>	<p>Farsoon offers the cooling system for cooling the laser and the scanner. This cooling unit is sufficient for the fiber laser of the SLS system.</p>
17	<p>PERIPHERALS</p> <ul style="list-style-type: none"> <li>- industrial vacuum cleaner</li> <li>- device for moving material and technology components around the workplace with an integrated battery for propulsion</li> </ul>	<p>Farsoon offers a dry-type industrial vacuum cleaner for removing and cleaning the excess polymer powders</p> <p>Farsoon offers a forklift for moving the powder cake from the machine to the parts breakout stations</p>
18	<p>CONSUMABLES</p> <ul style="list-style-type: none"> <li>- consumables required for the operation of the technology at least for a period of 6 months of continuous operation (filters, etc.)</li> </ul>	<p>Farsoon offers consumables, incl. one kit for preventive maintenance, sufficient for 6 months operation. In general, Farsoon recommends that Buyer orders extended preventive maintenance service for replacement of specific consumable parts 12 months after installation.</p>



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19	<p><b>SOFTWARE</b></p> <ul style="list-style-type: none"> <li>- software for processing STL data</li> <li>- software for preparation and remote transfer of print data to the printer</li> <li>- software / tool for the preparation of parameter sets for the development of printing parameters for new materials</li> <li>- site license for all software supplied (SW can be installed on an unlimited number of computers, as long as they're at the Buyer's location) for the period of the warranty</li> <li>- free updates of the supplied software for the period of the warranty</li> </ul>	<p>Farsoon offers the own-developed software solutions MakeStar and BuildStar:</p> <ul style="list-style-type: none"> <li>- Farsoon MakeStar/BuildStar is capable to process STL data</li> <li>- Farsoon MakeStar/BuildStar can prepare and transfer data to printer.</li> <li>- Farsoon MakeStar/BuildStar has the function for preparing the parameter sets and is suitable for changing and developing the print parameter for new materials.</li> <li>- Farsoon offers one (1) MakeStar/BuildStar license for the computer of the FS301M-2 machine and further more five (5) MakeStar/BuildStar licenses for use on individual PCs. All licenses are infinite/permanent.</li> </ul>
20	<p><b>PROTECTIVE EQUIPMENT</b></p> <ul style="list-style-type: none"> <li>- protective equipment for 2 persons (respiratory protection, eye protection, skin protection)</li> </ul>	<p>Farsoon offers personal protective equipment, such as disposable plastic gloves, anti-static gloves, safety goggles etc. These devices will be delivered with the system.</p>
<b>C. Common accessories</b>		
21	<p><b>NITROGEN GENERATOR</b></p> <ul style="list-style-type: none"> <li>- generation of nitrogen from the atmosphere in an adequate quality</li> <li>- with sufficient performance for both technologies (SLM and SLS) running simultaneously</li> </ul>	<p>Farsoon offers a Nitrogen Generator with 1000L and 270L reservoir buffer tanks (11bar) and with additional 500L buffer tank to ensure sufficient supply for both the SLM and SLS System. Farsoon assumes that Buyer supplies compressed air in sufficient quantity and quality.</p>



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Tab. 2 – Data on the evaluation criterion “Technical characteristics of the bid”

No.	Feature	comments of the Seller
I.	SLM TECHNOLOGY PRINTER The diameter of the laser beam for SLM technology can be variably changed (within the interval, it must be possible to set at least <b>one</b> of the diameters according to the specification in row no. 3 of table Tab. 1 above)	Compliant, Farsoon offers the FS301M-2 meet the requested feature.
II.	SLS TECHNOLOGY PRINTER The diameter of the laser beam for SLS technology can be variably changed (within the interval, it must be possible to set at least <b>two</b> of the diameters according to the specification in row no. 12 of table Tab. 1 above)	Partially Compliant, Farsoon offers the Flight ST252P with a standard laser diameter with 500 µm, adjustable between 200 – 500 µm.
III.	DEVICE FOR AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER FOR THE SLM TECHNOLOGY - ultrasonic breaking of clusters of powder particles	Compliant, Farsoon offers the sieving station, which is ultrasonic based and under the protective gas.
IV.	DEVICE FOR AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER FOR THE SLM TECHNOLOGY - communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485 - industrial communication protocol support: OPC UA - two-way communication for reading live data from the device such as the amount of processed powder, remaining time, status of the overflow container, etc.	Partially compliant, Farsoon offers the sieving station, which is ultrasonic based and under the protective gas, equipped with oxygen sensors and a display. Data from the display can be fed into electronic communication interfaces to be provided by Buyer. Seller is willing to support a joint development of such features.



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<p>V.</p>	<p>AUTOMATIC OR SEMI-AUTOMATIC SIEVING OF POWDER FOR THE SLS TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485</li> <li>- industrial communication protocol support: OPC UA</li> </ul>	<p>Partially compliant, Farsoon offers breakout station equipped with a sieving device. The sieving device works automatic, while the parts' breakout is manual. The requested digital communication function and digital protocol in the sieving station are currently not available. Seller is willing to support a joint development of such features.</p>
<p>VI.</p>	<p>EQUIPMENT FOR HEAT TREATMENT OF PRINTED PARTS FOR THE SLM TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- accommodates the volume of the full printing area</li> <li>- full temperature control up to 1300 °C with controllable cooling</li> </ul>	<p>Compliant, offered by Farsoon (refer to Pos. 170 of Seller's quotation)</p>
<p>VII.</p>	<p>EQUIPMENT FOR HEAT TREATMENT OF PRINTED PARTS FOR THE SLM TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485</li> <li>- industrial communication protocol support: OPC UA</li> <li>- two-way communication for reading live data from the furnace with the possibility of remote adjustment of process parameters such as chamber temperature, heating speed, etc.</li> </ul>	<p>Non-compliant, the offered oven has no digital communication and digital protocol function, however, Seller is willing to support a joint development of such features.</p>
<p>VIII.</p>	<p>COOLING SYSTEM FOR THE SLM TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485</li> <li>- industrial communication protocol support: OPC UA</li> </ul>	<p>Cooling system (chiller) is connected with the main laser melting machine. Temperature data is monitored, and can be reported via machine connectivity</p>



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IX.	<p>COOLING SYSTEM FOR THE SLS TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- communication and interface connectivity via industry-standard interface: Ethernet, RS232, RS422 or RS485</li> <li>- industrial communication protocol support: OPC UA</li> </ul>	<p>Cooling system (chiller) is connected with the main laser melting machine. Temperature data is monitored, and can be reported via machine connectivity</p>
X.	<p>SOFTWARE FOR THE SLM TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- software for monitoring and analyzing the printing process and for controlling powder application</li> </ul>	<p>Partially Compliant, Farsoon system has the standard optical camera for printing process monitoring, incl. the detection of defects of powder recoating. Farsoon is open to cooperating with FZU for jointly developing functions of printing process analysis.</p>
XI.	<p>SOFTWARE FOR THE SLM TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- postprocessor for Materialize Magics software (Buyer has a license for Materialize Magics software and has it installed on employees' computers)</li> </ul>	<p>Compliant, Farsoon software BuildStar is compatible with the SLT data from Materialise Magics. BuildStar has the function of preparing the parameter sets and is suitable for changing and developing the print parameter for new materials. The prepared data will be transferred to Makestar for other post process, such as 3D data slicing.</p>
XII.	<p>SOFTWARE FOR THE SLS TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- software for monitoring and analyzing the printing process and for controlling powder application</li> </ul>	<p>Partially Compliant, Farsoon system has the standard camera for printing process recording. Farsoon is open to cooperating with FZU for jointly developing function of Printing process analysis.</p>
XIII.	<p>SOFTWARE FOR THE SLS TECHNOLOGY</p> <ul style="list-style-type: none"> <li>- postprocessor for Materialize Magics software (Buyer has a license for Materialize Magics software and has it installed on employees' computers)</li> </ul>	<p>Compliant, Farsoon software BuildStar is compatible with the SLT data from Materialise Magics. BuildStar has the function of preparing the parameter sets and is suitable for changing and developing the print parameter for new materials. The prepared data will be transferred to Makestar for other post process, such as 3D data slicing.</p>



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## Annex No. 2

**The Seller's bid in the extent it describes technical parameters of the Equipment**



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CONFIDENTIAL

Date: 23.01.2023  
 Quotation No. OF\_20230123\_F020\_v01  
 Seller FARSOON Europe GmbH  
 Contact Person [REDACTED]  
 Phone [REDACTED]  
 E-Mail [REDACTED]

FARSOON Europe GmbH, Liebknechtstr. 33,  
 D-70565 Stuttgart, Germany

Fyzikální ústav AV ČR, v. v. i., Na  
 Slovance 1999/2  
 182 21 Prague 8,  
 Czech Republic

Reference: With reference to the tender "System of equipment for additive manufacturing using the SLM and SLS technologies", Seller adds this quotation as part of Annex 1 of the "Purchase Contract", and "Brain 4 Industry - Innovation centre" project, Reg. No. CZ.01.1.02/0.0/0.0/20\_330/0023431

Buyer: Fyzikální ústav AV ČR, v. v. i.  
 (Institute of Physics of the Czech Academy of Sciences)

Ship to: Fyzikální ústav AV ČR, v. v. i.  
 (Institute of Physics of the Czech Academy of Sciences)  
 Na Slovance 1999/2  
 182 21 Prague 8,  
 Czech Republic

Bill to: Fyzikální ústav AV ČR, v. v. i.  
 (Institute of Physics of the Czech Academy of Sciences)

Contact person: [REDACTED]  
 Phone: [REDACTED]  
 E-Mail: [REDACTED]

## Quotation for Farsoon FS301M-2 and Flight ST252P

Dear ladies and gentlemen, dear [REDACTED]

To above and below conditions we offer you:

### 1.) Products description and prices

All Prices in Euro (excl. VAT)

Pos.	Description	Unit	Price per Unit	Price per Pos.
100	<b>FS301M-2 (dual laser) Metal Powder Bed Fusion (SLM) Machine:</b> - Build cylinder size (incl. substrate plate): 305 x 305 x 410 mm <sup>3</sup> (LxWxH) - 2x 500 W Yb-fiber lasers - 2x dynamic-focusing scanning system up to 15 m/s scanning speed - Integrated circulating inert gas filter unit - Incl. 3 removable powder tanks (FS301M.05.01) - Incl. 3 steel base-plates		[REDACTED]	[REDACTED]

Bank-Konto: [REDACTED]  
 IBAN: [REDACTED]  
 BIC: [REDACTED]

Managing Director: Dr. Dirk Simon  
 Handelsregister Stuttgart HRB 765216  
 Steuer Nr. 99063/16857; USt-IdNr.: DE318382585

Date: 23.01.2023  
 Quotation No. OF\_20230123\_F020\_v01

Pos.	Description	Unit	Price per Unit	Price per Pos.
105	<b>Farsoon Flight ST252P Polymer Powder Bed Fusion (SLS) Machine:</b> - Build cylinder size: 250 x 250 x 320 mm <sup>3</sup> - 300 W fiber laser - High-precision three-axis laser scanning system with scan speed of up to 20 m/s - up to 280°C powder bed temperature	■	■	■
110	<b>12 months FS301M-2 systems warranty</b>	1	(included)	(included)
115	<b>12 months Flight ST252 systems warranty</b>	1	(included)	(included)
120	<b>Chiller for FS301M-2 (MCW1-15C-07XZ-1237C or equivalent)</b> - Integrated with main unit's power	■	■	■
125	<b>Chiller for Flight ST252P (CWFL-1000BN or equivalent)</b> - Integrated with main unit's power	■	■	■
135	<b>Plastic Powder Mixer Farsoon FS-M-50</b> - Volume: 50Kg	■	■	■
140	<b>Semi-automatic Metal Powder Sieving Station (Vibration Screen) Farsoon FS-S-02M</b> - With one high precision and a second course oxygen sensor, and display of oxygen content	■	■	■
145	<b>Semi-automatic Plastic Powder Sieving Station and Parts Breakout Station Farsoon FS04-PPS</b>	■	■	■
150	<b>Forklift, semi-electric, Farsoon FS-C-06M, specialized for FS301M</b> - To carry the removable powder tank and build platforms	■	■	■
155	<b>Forklift Farsoon FS-C-04P for Flight ST252P</b> - To carry plastic powder cake after build from machine to breakout station	■	■	■
160	<b>Anti-explosion Vacuum cleaner for metal powders RUWAC NA7-11 H (or equivalent)</b> - Wet-type - ATEX explosion-proof degree ZONE22 - Volume: 27L	■	■	■
165	<b>Vacuum cleaner for plastic powders Nilfisk ATTIX961-01 (or equivalent)</b> - Dry-type - Volume: 70L	■	■	■
170	<b>Oven for thermal treatment of metal parts Liyu JNL-1400 (or equivalent)</b> - Furnace size 500 x 500 x 500 mm <sup>3</sup> - Power: 3-phase 400 V, 50 Hz, 25 kW - Temperature accuracy: ± 1 °C - Max. temperature: 1400°C	■	■	■

Date: 23.01.2023  
 Quotation No. OF\_20230123\_F020\_v01

Pos.	Description	Unit	Price per Unit	Price per Pos.
180	<b>Nitrogen Generator to supply FS301M-2 and Flight ST252P Systems with Nitrogen</b> (Claind N2 PICO3 or equivalent) - Purity 99,9% - incl. 1000L and 270L reservoir buffer tanks (11bar) - Incl. 500L extra buffer tank	■	■	■
190	<b>Air compressor to supply compressed air to the Nitrogen generator</b> (Kaeser SX6 T-11 SC2 or equivalent) - max press. 11 bar	■	■	(optional)
200	<b>Nitrogen Generator and Air compressor for FS301M-2 and Flight ST252P systems</b> (Claind N2 PICO3 and Kaeser SX6 T-11 SC2, or equivalent) - as described in Pos. 180 and 190	■	■	(optional)
300	<b>40 kg 316L powder for installation and calibration of FS301M-2 System</b>	EUR/kg	■	■
305	<b>40 kg FS3201PA-F black polyamide powder for installation &amp; calibration of Flight ST252P System</b> - Based on PA1212, produced by Farsoon, for PA12-like part properties - Virgin/used mixed powder for calibration	EUR/kg	■	■
400	<b>Systems Installation &amp; Calibration for FS301M-2 and Flight ST252P at Buyer site</b> - Part-time 2 Service Engineers on-site - Commissioning with <u>printing test part</u> (size 120x120x60 mm <sup>3</sup> ) - 4 days User Training on customer site for 2-4 operators - In total, typically 18 working days - Includes costs for traveling and accommodation	■	■	■
410	<b>Equipment Service for 12 months after installation for Flight 252P &amp; FS301M-2 according to spec. data sheets of Services with following changes:</b> - incl. one-time (instead of 2 times per 12 months) preventive maintenance services for each machine (incl. inspection) - incl. wear parts for all components of the system hardware - incl. costs of traveling and accommodation	■	■	■
420	<b>Extension of statutory warranty to a total of 36 months after installation</b>	■	■	(optional)
500	<b>MakeStar license on machine-computer</b> - Permanently	■	■	■
510	<b>BuildStar license on personal-computer</b> - Permanently	■	■	■

Date: 23.01.2023  
 Quotation No. OF\_20230123\_F020\_v01

Pos.	Description	Unit	Price per Unit	Price per Pos.
600	Consumables for 6 months operations of FS301M-2 and one preventive maintenance kit	■	■	■
605	Consumables for 6 months operations of Flight ST252P and one preventive maintenance kit	■	■	■
610	Personal protective equipment for 2 operators of FS301M-2	■	■	■
615	Personal protective equipment for 2 operators of Flight ST252P	■	■	■
800	Unloading packages from trucks with special >3tons capable forklifts (rented by Seller) and transport packages in Buyer's building to place of installation, and unpacking and disposal of packaging	■	■	■
Total systems price 1x FS301M-2 and 1x Flight ST252P (w/o optional)			EUR	■
Discount ■			EUR	■
<b>Final Discounted Systems Price (w/o optional)</b>			<b>EUR</b>	<b>649.900,00</b>

**2.) Delivery terms**

- DDP (Incoterm 2010) ship-to site as mentioned above.
- Estimated lead-time: up to 4 months after firm purchase order, when receiving by Feb 10, 2023

**3.) Payment terms**

- 30% of the total amount will be invoiced as “down-payment” upon after the conclusion of the “Purchase contract”, whereas Seller will dispatch an order confirmation at the same time, and is payable within 30 days without deduction
- 70% of the total amount will be invoiced after installation, commissioning and acceptance by the client (signed “Handover Protocol”) and is payable within 30 days without deduction.

**4.) Additional terms**

- Validity of Quotation: 31.01.2023 (subject to prior sales)
- Buyer supports the unloading of the machines from the truck, incl. providing the tools for lifting and moving the >3tons packages if available by Buyer.
- Buyer is responsible to provide hoses, pipes and connections for Compressed Air, and its supply in sufficient quality and quantity
- Buyer is responsible for the connection to electricity, including the cables and plugs



## General Terms and Conditions of Sale

Version	Change history	Approved & Issued
V01	New release	Date: Oct. 09, 2018
V02		

### 1. Scope of Application

1.1. All supplies (machines, equipment, hardware, ware & spare parts, software, metal or plastic powders, metal or plastic parts, services, etc.) shall be provided exclusively on the basis of these General Conditions of Sale. References made by Buyer to his general terms and conditions are hereby rejected. These General Conditions of Sale shall also apply to all future business. Deviation from these General Conditions of Sale require the explicit written approval of FARSOON Europe GmbH (hereinafter "FARSOON").

### 2. Offer and Acceptance

2.1. FARSOON's quotations are not binding offers but must be seen as invitations to Buyer to submit a binding order. The contract is concluded by Buyer's order (offer) and by FARSOON's acceptance. In case the acceptance differs from the order, such acceptance constitutes a new non-binding offer of FARSOON, which is understood as accepted by silence of the Buyer. FARSOON has the right to refuse an order at all time.

### 3. Product quality, specimens and samples; guarantees

3.1. Unless otherwise agreed, the quality of the goods is exclusively determined by FARSOON's product specifications. Identified uses under the European Chemicals Regulation REACH relevant for the goods shall neither represent an agreement on the corresponding contractual quality of the goods nor the designated use under this contract.

3.2. The properties of specimens and samples are binding only insofar as they have been explicitly agreed to define the quality of the goods.

3.3. Quality and shelf-life data as well as other data constitute a guarantee only if they have been agreed and designated as such.

### 4. Advice

4.1. Any advice rendered by FARSOON is given to the best of his knowledge. Any advice and information with respect to suitability and application of the goods shall not relieve Buyer from undertaking his own investigations and tests

### 5. Prices

5.1. The buyer is responsible for any local sales taxes, other taxes and government fees, if any, associated with the order.

5.2. Prices at the time of placing an order are effective throughout the buying process. However, if software or human errors result in incorrect pricing, FARSOON reserves the right to cancel the order or to adjust the price, whether or not the order has been confirmed. Erroneous prices are not legally binding.

5.3. FARSOON shall at all time be entitled to alter prices in event of government measures that cause substantial prices rises.

5.4. If FARSOON's prices or FARSOON's terms of payment are generally altered between the date of contract and dispatch, FARSOON may apply the price or the terms of payment in effect on the date of dispatch. In the event of a price increase, Buyer is entitled to withdraw from the contract by giving notice to FARSOON within 14 days after notification of the price increase.

### 6. Delivery

6.1. Delivery shall be effected as agreed in the contract. General Commercial Terms shall be interpreted in accordance with the INCOTERMS in force on the date the contract is concluded.

### 7. Damage in Transit

- 7.1. Depending on the Incoterms of the contract, notice of claims arising out of damage in transit must be lodged by Buyer directly with the carrier within the period specified in the contract of carriage and FARSOON shall be provided with a copy thereof.
- 8. Compliance with legal requirements**
- 8.1. Unless specifically agreed otherwise, Buyer is responsible for compliance with all laws and regulations regarding import, transport, storage and use of the goods.
- 9. Delay in Payment**
- 9.1. Failure to pay the purchase price by the due date constitutes a fundamental breach of contractual obligations.
- 9.2. In the event of a default in payment by Buyer, FARSOON is entitled to charge interest on the amount outstanding at the rate of 9 percentage points above the base interest rate announced by the German Federal Bank at the time payment is due if the amount is invoiced in euros, or, if invoiced in any other currency, at the rate of 9 percentage points above the discount rate of the main banking institution of the country of the invoiced currency at the time the payment is due.
- 10. Buyer's rights regarding defective goods**
- 10.1. In case FARSOON supplies are machines, equipment, hardware, software, the supplies are deemed to be delivered by FARSOON and accepted by Buyer once the following conditions has been fulfilled:
- in quality: after the actual assembly and start-up, FARSOON performs a performance test at the place of installation
  - in the number of items and weight: according to the bill of lading
  - in the number of parts and components: according to specifications and packing lists within the period of the actual assembly.
- 10.2. FARSOON must be notified of any defects that can be discovered during routine inspection within four weeks of receipt of the goods; other defects must be notified within eight days after they are discovered. Notification must be in writing and must precisely describe the nature and extent of the defects giving evidence on the root-cause of the defects. FARSOON warranty is restricted to design, production and material defects, excluding warranty for wearing parts such as relays, heating strips, fuses, seals, filters, and other parts which are particularly prone to wear.
- 10.3. If the goods are defective and Buyer has duly notified FARSOON in accordance with item 10.2, Buyer has its statutory rights, provided that:
- FARSOON has the right to choose whether to remedy the defect or supply Buyer with non-defective replacement goods.
  - FARSOON may make two attempts according to lit. a) above. Should these fail or cause unreasonable inconvenience to Buyer, Buyer may either withdraw from the contract or demand a reduction in the purchase price.
  - With regard to claims for compensation and reimbursement of expenses on a defect, item 11 applies.
- 10.4. The buyer shall undertake to permit no-one other than FARSOON to rectify any defects which occur within the period of warranty. If it omits to do so and rectifies any defects itself or arranges for third parties to do so, its warranty entitlements shall be invalidated. The buyer shall be required to pay for any costs incurred through its attempts to carry out any such repairs.
- 10.5. FARSOON shall accept no liability whatsoever for indirect damages, consequential damages resulting from defects, default damages or for damages resulting from the violation of legal goods by third parties. This, however, shall not apply in cases where compulsory liability is accepted in respect of intent, gross negligence or due to death, physical injury or harm to health. This shall also apply where culpability rests with legal representatives or vicarious agents, as well as in the case of culpability in contractual negotiations.
- 10.6. Buyer's claims for defective goods are subject to a period of limitation of one year from receipt of the goods.  
In the following cases the legal periods of limitation apply instead of the one-year period:

- a) liability for willful misconduct,
- b) fraudulent concealment of a defect,
- c) claims against FARSOON relating to the defectiveness of goods that when applied to a building in the ordinary manner caused it to be defective,
- d) claims for damage to life, body and health caused by FARSOON's negligent breach of duty, or by willful or negligent breach of duty on the part of FARSOON's legal representative or vicarious agent,
- e) claims for other damage caused by FARSOON's grossly negligent breach of duty, or by willful or grossly negligent breach of duty on the part of FARSOON's legal representative or vicarious agent,
- f) in the event of a Buyer's recourse claim based on consumer goods purchasing regulations.

**11. Liability**

- 11.1. FARSOON shall be generally liable for damages in accordance with the law. In the event of a simple negligent violation of fundamental contractual obligations, however, FARSOON's liability shall be limited to compensation for typical, foreseeable losses. In the event of a simple negligent violation of non-fundamental contractual obligations, FARSOON shall not be liable. The foregoing limitations on liability do not apply to damage to life, body or health.
- 11.2. FARSOON is not liable to Buyer in case of impossibility or delay in the performance of its supply obligations if the impossibility or the delay is due to orderly compliance of regulatory and legal obligations in connection with the European Chemicals Regulation REACH being triggered by Buyer.

**12. Setoff**

- 12.1. Buyer may only set off claims from FARSOON against an undisputed or adjudicated counterclaim.

**13. Security**

- 13.1. If there are reasonable doubts as to Buyer's ability to pay, especially if Buyer is in default of payment, FARSOON may, subject to further claims, revoke agreed credit periods and make further deliveries dependent on the provision of sufficient security.

**14. Retention of Title**

- 14.1. Simple Retention of Title: Title to the goods delivered shall not pass to Buyer before the purchase price has been paid in full.
- 14.2. Expanded Retention of Title: In case Buyer has paid the purchase price for the goods delivered but not yet completely fulfilled other debts arising out of his business relationship with FARSOON, FARSOON retains, in addition, title to the goods delivered until all such outstanding debts have been completely paid, provided that upon the fulfilment of Buyer's debts to FARSOON, Buyer shall directly acquire sole title to such goods.
- 14.3. Retention of Title with processing clause: In the event that Buyer has not yet completely fulfilled debts arising out of his business relationship with FARSOON and Buyer processes the goods delivered by FARSOON, FARSOON shall be considered manufacturer and shall directly acquire sole title to the newly produced goods. If the processing involves other products, FARSOON shall directly acquire joint title to the newly produced goods in the proportion of the invoice value of the goods delivered by FARSOON to the invoice value of the other products, provided that upon the fulfilment of Buyer's debts to FARSOON, Buyer shall directly acquire sole title to such newly produced goods.
- 14.4. Retention of Title with combination and blending clause: In the event that that Buyer has not yet completely fulfilled debts arising out of his business relationship with FARSOON and if the goods delivered by FARSOON are combined or blended with product owned by Buyer, which has to be considered the main product, it is deemed to be agreed that Buyer transfers to FARSOON the joint title to such main product in the proportion of the invoice value of the goods delivered by FARSOON to the invoice value (or, if the invoice value can not be determined to the market value) of the main product, provided that upon

the fulfilment of Buyer's debts to FARSOON, Buyer shall directly acquire sole title to such goods. Buyer holds in custody for FARSOON any sole or joint ownership originating therefrom at no expense for FARSOON.

- 14.5. Extended Retention of Title with blanket assignment: Buyer shall have in the ordinary course of business free disposal of the goods owned by FARSOON, provided that Buyer meets its obligations under the business relationship with FARSOON in due time. Buyer already assigns to FARSOON all claims in connection with the sale of goods to which FARSOON reserves the right of retention of title when concluding the sales agreement with FARSOON; should FARSOON have acquired joint title in case of processing, combination or blending, such assignment to FARSOON takes place in the proportion of the value of the goods delivered by FARSOON with retention of title to the value of the goods of third parties with retention of title. Buyer already assigns to FARSOON any future confirmed balance claims under current account agreements in the amount of the outstanding claims of FARSOON when concluding the sales agreement with FARSOON.
- 14.6. Right of Access/Disclosure: At the request of FARSOON, Buyer shall provide all necessary information on the inventory of goods owned by FARSOON and on the claims assigned to FARSOON. Furthermore, at the request of FARSOON, Buyer shall identify on the packaging FARSOON's title to the goods and shall notify its customers of the assignment of the claims to FARSOON.
- 14.7. Late Payment: In the event of late payment by Buyer, FARSOON is entitled, without rescinding the sales agreement and without granting a period of grace, to demand the temporary surrender of the goods owned by FARSOON at Buyer's expense.
- 14.8. Partial Waiver clause: Should the value of the securities exceed FARSOON's claims by more than 15%, FARSOON waives securities to this extent.

#### **15. Force Majeure**

- 15.1. To the extent any incident or circumstance beyond the FARSOON's control (including natural occurrences, war, strikes, lock-outs, shortages of raw materials and energy, obstruction of transportation, breakdown of manufacturing equipment, fire, explosion, acts of government), reduces the availability of goods from the plant from which the FARSOON receives the goods such that FARSOON can not fulfill its obligations under this contract (taking into account on a pro rata basis other supply obligations), FARSOON shall (i) be relieved from his obligations under this contract to the extent FARSOON is prevented from performing such obligations and (ii) have no obligation to procure goods from other sources. The first sentence does also apply to the extent such incident or circumstance renders the contractual performance commercially useless for FARSOON over a long period or occurs with suppliers of FARSOON. If the aforementioned occurrences last for a period of more than 3 months, FARSOON is entitled to withdraw from the contract without the Buyer having any right to compensation.

#### **16. Confidentiality**

- 16.1. The buyer shall undertake to treat FARSOON's know-how, as well as any of our other business and trade secrets, including the contents of the contract with the customer, as strictly confidential. The buyer shall take all the reasonable precautions necessary to safeguard the aforementioned information against unauthorized access, unauthorized publication, duplication, circulation and other unauthorized use. The obligations specified in this article shall also extend over and beyond the end of this contract.

#### **17. Intellectual Property**

- 17.1. The buyer explicitly acknowledges that all intellectual and/or industrial property rights relating to the goods to be delivered pursuant to the agreement and/or associated designs, documentation, reports, offers and associated preparatory material belong exclusively to FARSOON, or its suppliers or other entitled parties.
- 17.2. Intellectual property rights include patents, copyrights, trademarks and other (intellectual property) rights, including technical and commercial know-how, methods and concepts.
- 17.3. The buyer is not allowed to modify any intellectual property rights as described in this article, for instance multiplication without explicit prior written approval from FARSOON, its suppliers or other entitled parties.

- 17.4. The entire content of FARSOON websites, including but not limited to text, graphics or code is copyrighted as a collective work under German law and other copyright laws, and is the property of FARSOON. The collective work includes work that is licensed to FARSOON. Permission is granted to electronically copy and print hard copy portions of this site for the sole purpose of placing an order with FARSOON or purchasing FARSOON goods. The user may display and, subject to any expressly stated restrictions or limitations relating to specific material, download or print portions of the material from the different areas of the site solely for the buyer's own non-commercial use, or to place an order with FARSOON or to purchase FARSOON goods. Any other use, including but not limited to the reproduction, distribution, display or transmission of the content of this site is strictly prohibited, unless authorized by FARSOON.
- 17.5. All content included on this site, such as text, photos, graphics, logos, button icons, images, audio/video clips, digital downloads, data compilations, and software is the property of FARSOON or its content suppliers and protected by international copyright laws.
- 17.6. No part of this website may be copied, reproduced, duplicated, sold, resold, visited, filed, distributed or otherwise exploited without the expressed prior written consent of FARSOON.
- 18. Place of payment**
- 18.1. Regardless of the place of delivery of goods or documents, the place of payment shall be FARSOON's place of business.
- 19. Communication**
- 19.1. Any notice or other communication required to be received by a party is only effective at the moment it reaches this party. If a time limit has to be observed, the notice or other communication has to reach the recipient party within such time limit.
- 20. Jurisdiction**
- 20.1. Any dispute arising out of or in connection with this contract shall be construed in accordance with the laws of Germany without recourse to its conflict of laws rules.
- 20.2. Any dispute, claim or controversy arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved, without recourse to the courts, by arbitration proceedings taking place in Industrie- und Handelskammer Region Stuttgart, Germany, in accordance with the Arbitration Rules of the German Arbitration Institute (DIS) for the time being in force, which rules are deemed to be incorporated by reference in this clause. The Tribunal shall consist of one (1) arbitrator leading the arbitration to be appointed by the president of the Industrie- und Handelskammer. Each party shall have the right to appoint one additional arbitrator each from independent legal entities and free of conflict of interests. The language of the arbitration shall be German. The parties agree that pre-hearing document discovery shall be limited to the documents relied upon by each party and that the inquisitorial processes of interrogatories, requests for admissions and the like issued by any of the parties and pre-hearing examinations of witnesses by any of the parties are expressly excluded. The parties shall agree on that the proceeding takes place in private and excluding public access or attendance of third parties. The arbitration decision shall be finally binding for both parties. The costs for the arbitration procedures shall be borne by the losing party or as otherwise determined by the arbitration panel. The arbitration award shall be enforceable by a court having jurisdiction over the party against whom the award has been rendered.
- 20.3. All claims under this contract shall become statute-barred within 12 months after the beneficiary obtains information on the circumstances establishing the claim. For any claim under § 89 b HGB this 12 months period of limitation shall, however, only begin on the expiration of the one year assertion period (§ 89 b IV 2 HGB). The afore-mentioned provisions to shorten the period of limitation shall not apply to claims which may not be restricted according to coercive statutory provisions, such as claims under liability for wrongful intent in accordance with § 202 BGB (German Civil Code).

- 20.4. The parties each expressly waive and disavow any rights that may accrue under any other body of law. The U.N. Convention on Contracts for the Sale of International Goods is hereby excluded from application in this contract.
- 20.5. Each party agrees to maintain a high standard of moral and ethical behavior concerning its activities and conduct its business with the highest degree of integrity. It shall comply with all anti-bribery laws, and shall have and maintain in place throughout the term of AGREEMENT its own policies and procedures to ensure compliance with all anti-bribery laws and will enforce them where appropriate.

**21. Privacy**

- 21.1. FARSOON respects personal information of the buyer. FARSOON hereby notify the buyer that, where necessary for business purposes and permissible within the scope of statutory regulations, personal data shall be stored and processed by FARSOON on computer.
- 21.2. FARSOON may collect statistics regarding the use of its websites such as traffic patterns and related site information, but this information will not include any personal identifying information.

**22. Severability**

- 22.1. If any provision of these Terms and Conditions is deemed to be void, invalid, unenforceable or illegal, the other provisions shall continue in full force and effect. The buyer and FARSOON are deemed to have agreed to new terms and conditions in substitution for such invalid provisions. These new terms and conditions shall be interpreted, as regards their contents and effect, as closely as possible to the original text as written but in such a way that rights can indeed be derived from them.
- 22.2. The parties (neither FARSOON, nor the Buyer) may not transfer to third parties the rights and obligations under this contract without the prior written consent of the other Party.
- 22.3. Any changes or additions to this contract are valid only if they were made in writing and signed by authorized persons on both sides.

## Description of Flight-ST252P (technical data & features) and Specification

Version	Change history	Approved & Issued
V01	New release	Date: 20210207
V02		

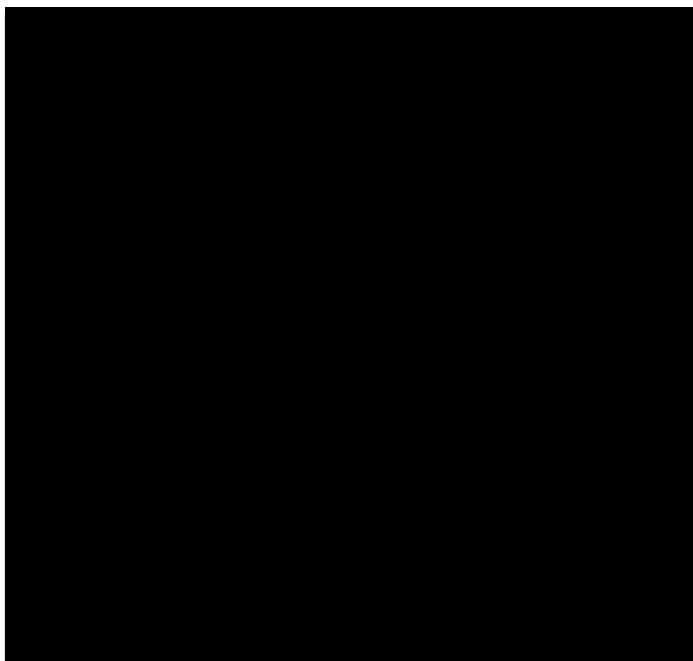
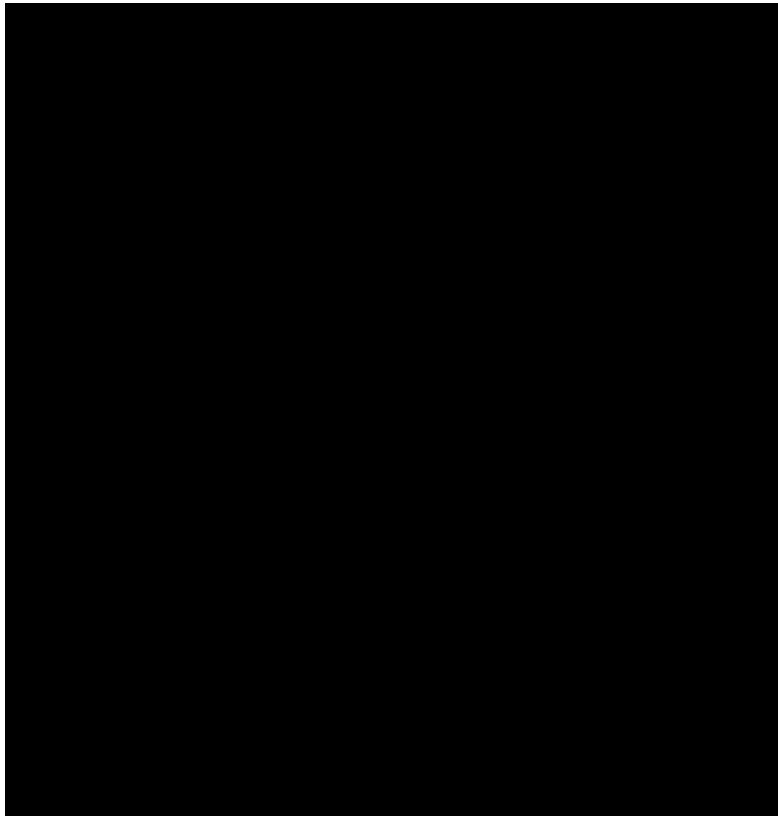
### Product description:

<b>Farsoon Flight-ST252P</b>	
External Dimension	1735×1225×1975 mm
Build Cylinder Size	250×250×320 mm
Layer Thickness (Typical)	0.06-0.3 mm (0.1 mm)
Volume Build Rate	Up to 1.5 L/hr
Scanner Type	High-precision Full Digital Galvo
Scanning Speed	Up to 15m/s
Laser Type	Fiber 300W
Power Requirements	3.0 kW (15 kW Max)
Powder Feed Mode	Bi-Directional powder feed system with single feed cylinder
Max. Powder Bed Temperature	280°C
Heating Element	Shortwave gold-plated twin tube (Fast-heating and easily accessible)
Thermal Field Control	Eight-zone heater & intelligent temperature control systems
Temperature Regulation	Continuous real-time build surface temperature monitoring & optimization
Net Weight	Approx. 2.100kg
Operating System	Windows 10, 64bit
Key Software Features	Farsoon MakeStar™ open platform control interface: Manual and automatic control modes, real-time build parameter modification, three-dimensional visualization, diagnostic functions, data file format ...stl
Tested materials	FS3300PA-F, specific third-party powders: PA6, PP, TPU

## Description of Flight-ST252P (technical data & features) and Specification

Version	Change history	Approved & Issued
V01	New release	Date: 20210207

### Example of Equipment Layout



## Description of Flight-ST252P (technical data & features) and Specification

Version	Change history	Approved & Issued
V01	New release	Date: 20210207

### Further Information:

TEL: +49 711 6740 0307

E-Mail: [wehelpyou@farsoon-eu.com](mailto:wehelpyou@farsoon-eu.com)

#### Disclaimer:

Many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data or information may be used without infringing the intellectual property rights of others. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

In no case shall the descriptions, information, data or designs provided by considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by Farsoon hereunder are provided gratis and Farsoon assumes no obligation or liability for the description, designs, data and information given or results obtained, all such being given and accepted at your risk.

# Description of FS301M (technical data & features) and Specification

Version	Change history	Approved & Issued
V01	New release	Date: July 23, 2020
V02		

## Product description:

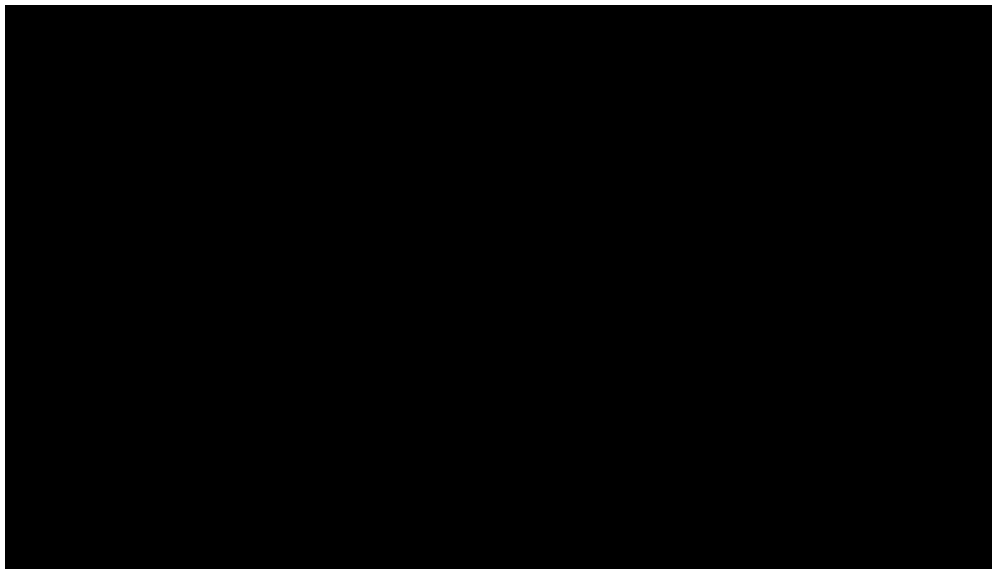
<b>Farsoon FS301M</b>	
External dimensions	2360 x 1530 x 2150 mm <sup>3</sup>
Required footprint:	3500 x 3000 x 2800 mm <sup>3</sup>
Net weight	2800 kg
Build cylinder dimension	305 x 305 x 400 mm <sup>3</sup>
Feed cylinder dimension	305 x 360 x 400 mm <sup>3</sup>
Max. build height*	359 – 375 mm (incl. height of base plate)
Build plate temperature	Up to 200°C
Powder Feed Mode	Uni-directional powder bottom feed system with single feed cylinder, one-way recoating; powder filling with pipe in front of machine under inert conditions
Layer Thickness (typical)	0.02 – 0.1 mm
Scanner Type	3-axis high-precision full digital dynamic-focusing galvo scanning system
Scanning Speed	Up to 15 m/s
Laser Type	2 x 500 W Yb-fiber laser (optional with one laser) (both lasers covering full build area)
Spot Diameter	75 – 200 μm, adjustable
Dimensional accuracy	+/- 0.02 – 0.1 mm (subject to many factors)
Inert Gas Supply	Argon or Nitrogen, up to 3-5 L/Min average consumption
Gas Protective System	Gas advection fume/dust recovery system, fully removable from machine for cleaning and filter exchange
Explosion protection	Compliant with GB/T 15605-2008 (Guide for pressure venting of dust explosions)
Recirculating Chiller Size	780 x 470 x 890 mm <sup>3</sup>
Operating conditions	25 +/- 3°C; <75% rh
Installation Floor Load Capacity	>250 N/m <sup>2</sup>

## Description of beta-FS301M (technical data & features) and provisional Specification

Version	Change history	Approved & Issued
V01	New release	Date: July 23, 2020

Farsoon FS301M	
Power Requirements	min. 400V AC, 50/60Hz, 8 kVA, three-phase five-wire
Operating System	Windows 10
Software	Farsoon BuildStar™ & MakeStar™ open platform with data stl-file format (see software specification data sheet)
Materials (supplied by 3 <sup>rd</sup> parties)	316L, 17-4PH, 15-5PH, 420, CoCr. AISi10Mg, 18Ni300; Cu90Sn10, IN625, IN718; Ta, W

## Example of Equipment Layout



## Further Information:

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E-Mail: [globalinfo@farsoon.com](mailto:globalinfo@farsoon.com)

Tel: +49 6740 0305  
E-Mail: [wehelpyou@farsoon-eu.com](mailto:wehelpyou@farsoon-eu.com)

## Disclaimer:

Many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data or information may be used without infringing the intellectual property rights of others. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

In no case shall the descriptions, information, data or designs provided by considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by Farsoon hereunder are provided gratis and Farsoon assumes no obligation or liability for the description, designs, data and information given or results obtained, all such being given and accepted at your risk.

## Specification on Technical Services (252P-series & eForm)

Version	Change history	Approved & Issued
V01	New release	Date: Feb. 14, 2019
V02		

### Background:

Farsoon continuously improve its products for reducing the need on special technical services. However, certain components of Farsoon products (e.g. filters, seals, gaskets, sensors) need to be replaced regularly. Furthermore, the high-tech electro-mechanical components might need recalibration.

Therefore, Farsoon recommends performing a preventive maintenance (PM) service every 6 months (in case of regular use). When Farsoon machines are used very intensively, and with aggressive powders, Farsoon recommends performing preventive maintenance more often.

Farsoon offers Technical Service in following 3 categories:

1. Individual service on-demand
2. Silver level service contract
3. Gold level service contract

### Qualification of Service Engineer:

Farsoon continuously invests into the qualification of its Service Engineers. Level of education must be at least Bachelor's degree in Engineering. The Service Engineers are extensively trained in Farsoon Headquarters and must pass examinations before receiving the certification. Farsoon differentiates following 4 levels of certification:

Level 1	Level 2	Level 3	Level 4
<ul style="list-style-type: none"> <li>• Operators' training</li> <li>• Software training</li> <li>• Standard safety training</li> <li>• Basic phone &amp; e-mail support</li> <li>• Mechanical checks of machine</li> </ul>	<ul style="list-style-type: none"> <li>• Exchange of wear parts</li> <li>• Basic troubleshooting of mechanical issues</li> <li>• Apprentice machine repair</li> <li>• Installing software upgrades</li> <li>• Laser power calibration</li> </ul>	<ul style="list-style-type: none"> <li>• Troubleshooting of mechanical, thermal &amp; electro-optical issues</li> <li>• All aspects of preventive maintenance</li> <li>• Electro-optical &amp; thermal machine calibrations</li> <li>• Machine repairs</li> <li>• Application support</li> </ul>	<ul style="list-style-type: none"> <li>• Expert level machine installations &amp; repairs</li> <li>• Technical services on beta-machines</li> <li>• Advanced application support &amp; joint developments</li> <li>• Advanced safety training</li> </ul>

Farsoon sends Service Engineers of at least Level 3 to customers.

## Specification on Technical Services (252P-series & eForm)

Version	Change history	Approved & Issued
V01	New release	Date: Feb. 14, 2019

### Specification of services performed in the different levels:

	On-demand Services	Silver Level Services	Gold Level Services
<b>Labor costs</b>	Invoiced per day	Included	Included
<b>Preventive Maintenance</b> (as specified below)	On-request, invoiced according to expenses	2 visits of 5 days each included	Up to 3 visits of 5 days each included
<b>Software &amp; hardware upgrades</b>	Invoiced according to expenses	Included in PM	Included in PM
<b>Remote trouble-shooting</b>	Excluded	Qualified response within 72h* included	Qualified response within 36h* included
<b>Application support (incl. material config files)</b>	Excluded	Included	Included
<b>Costs of wear parts</b>	Invoiced according to expenses	Included	Included
<b>Costs of spare parts</b>	Invoiced according to expenses	Invoiced according to expenses	Included <sup>#</sup>
<b>Travelling</b>	Invoiced according to expenses	Included	Included
<b>Accommodation</b>	To be paid by customer directly	Included	Included

\*: during working days, no public holidays, no weekends

#: for defective components up to 3'000 EUR per year

### Specification of Preventive Maintenance Service:

- Deep inspection of machine, repair of small defects
- Replace build & powder cylinder piston seal ring
- Inspect build cylinder thermal insulation gasket, eventually replace gasket
- Clean and lubricate ball screw of build & powder cylinder
- Straight slide way lubrication
- Inspect air impermeability of build chamber
- Clean fan filter cotton
- Clean electrical cabinet & laser box
- Clean laser window, check transparency, eventually replace laser window
- Inspect servo motors
- Fasten all limit switches
- Electro-optical, mechanical & thermal machine calibrations
- Laser power calibration
- Replace oxygen sensor (not necessary in case of HT/ST252P)
- Clean heating tubes
- Replace return cylinder piston seal ring
- Replace gas filter
- Check valves and switches of chiller
- Clean fan filter of chiller
- Replace filter and deionized water of chiller
- Clean & inspect breakout station, eventually replace sealings, fuses
- Perform specific build job for performance test
- Update safety training
- Recommendations on machine operations

## Specification on Technical Services (252P-series & eForm)

Version	Change history	Approved & Issued
V01	New release	Date: Feb. 14, 2019

### Further Information:

FARSOON Europe GmbH  
Curie-Str. 2  
70563 Stuttgart  
Germany

TEL: +49 711 6740 0307  
E-Mail: [wehelpyou@farsoon-eu-com](mailto:wehelpyou@farsoon-eu-com)

### Disclaimer:

The User of Farsoon machines can freely-choose powders and can optimize part properties and speed of parts' fabrication by the tuning of processing parameters. Farsoon takes no liability on the results of using Farsoon machines, and rejects warranties on machine defects caused by misuse or by powders. Warranty claims on machine defects will be investigated for their root causes, and Farsoon accepts valid warranty claims according to the laws in the country of sale for 12 months after delivery. FARSOON Europe GmbH General Terms and Conditions of Sale apply.

## Specification on Technical Services (FS273M)

Version	Change history	Approved & Issued
V01	New release	Date: 18 March 2022
V02		

### Background:

Farsoon continuously improve its products for reducing the need on special technical services. However, certain components of Farsoon products (e.g. filters, seals, gaskets, sensors) need to be replaced regularly. Furthermore, the high-tech electro-mechanical components might need recalibration.

Therefore, Farsoon recommends performing a preventive maintenance (PM) service every 6 months (in case of regular use). When Farsoon machines are used very intensively, and with aggressive powders, Farsoon recommends performing preventive maintenance more often.

Farsoon offers Technical Service in following 3 categories:

1. Individual service on-demand
2. Silver level service contract
3. Gold level service contract

### Qualification of Service Engineer:

Farsoon continuously invests into the qualification of its Service Engineers. Level of education must be at least Bachelor's degree in Engineering. The Service Engineers are extensively trained in Farsoon Headquarters and must pass examinations before receiving the certification. Farsoon differentiates following 4 levels of certification:

Level 1	Level 2	Level 3	Level 4
<ul style="list-style-type: none"> <li>• Operators' training</li> <li>• Software training</li> <li>• Standard safety training</li> <li>• Basic phone &amp; e-mail support</li> <li>• Mechanical checks of machine</li> </ul>	<ul style="list-style-type: none"> <li>• Exchange of wear parts</li> <li>• Basic troubleshooting of mechanical issues</li> <li>• Apprentice machine repair</li> <li>• Installing software upgrades</li> <li>• Laser power calibration</li> </ul>	<ul style="list-style-type: none"> <li>• Troubleshooting of mechanical, thermal &amp; electro-optical issues</li> <li>• All aspects of preventive maintenance</li> <li>• Electro-optical &amp; thermal machine calibrations</li> <li>• Machine repairs</li> <li>• Application support</li> </ul>	<ul style="list-style-type: none"> <li>• Expert level machine installations &amp; repairs</li> <li>• Technical services on beta-machines</li> <li>• Advanced application support &amp; joint developments</li> <li>• Advanced safety training</li> </ul>

Farsoon sends Service Engineers of at least Level 3 to customers.

## Specification on Technical Services (FS273M)

Version	Change history	Approved & Issued
V01	New release	Date: 18 March 2022

### Specification of services performed in the different levels:

	On-demand Services	Silver Level Services	Gold Level Services
<b>Labor costs</b>	Invoiced per day	Included	Included
<b>Preventive Maintenance</b> (as specified below)	On-request, invoiced according to expenses	2 visits of 5 days each included	Up to 3 visits of 5 days each included
<b>Software &amp; hardware upgrades</b>	Invoiced according to expenses	Included in PM	Included in PM
<b>Remote trouble-shooting</b>	Excluded	Qualified response within 72h* included	Qualified response within 36h* included
<b>Application support (incl. material config files)</b>	Excluded	Included	Included
<b>Costs of wear parts</b>	Invoiced according to expenses	Included	Included
<b>Costs of spare parts</b>	Invoiced according to expenses	Invoiced according to expenses	Included#
<b>Travelling</b>	Invoiced according to expenses	Included	Included
<b>Accommodation</b>	To be paid by customer directly	Included	Included

\*: during working days, no public holidays, no weekends

#: for defective components up to 3'000 EUR per year

### Specification of Preventive Maintenance Service:

- Deep inspection of machine, repair of small defects
- Replace build & powder cylinder piston seal ring
- Clean air flue and recirculating filter system.
- Clean and lubricate ball screw of build & powder cylinder
- Straight slide way lubrication
- Inspect air impermeability of build chamber
- Clean fan filter cotton
- Clean electrical cabinet & laser box
- Clean laser window, check transparency, eventually replace laser window
- Inspect servo motors
- Fasten all limit switches
- Electro-optical, mechanical machine calibrations
- Laser power calibration
- Replace oxygen sensor
- Check valves and switches of chiller
- Clean fan filter of chiller
- Replace filter and deionized water of chiller
- Clean & inspect sieve, eventually replace sealings, fuses
- Perform specific build job for performance test
- Update safety training
- Recommendations on machine operations

## Specification on Technical Services (FS273M)

Version	Change history	Approved & Issued
V01	New release	Date: Date: 18 March 2022

### Further Information:

FARSOON Europe GmbH  
Liebknechstr. 33  
70565 Stuttgart  
Germany

TEL: +49 711 1379 60  
E-Mail: [wehelpyou@farsoon-eu-com](mailto:wehelpyou@farsoon-eu-com)

### Disclaimer:

The User of Farsoon machines can freely-choose powders and can optimize part properties and speed of parts' fabrication by the tuning of processing parameters. Farsoon takes no liability on the results of using Farsoon machines, and rejects warranties on machine defects caused by misuse or by powders. Warranty claims on machine defects will be investigated for their root causes, and Farsoon accepts valid warranty claims according to the laws in the country of sale for 12 months after delivery. FARSOON Europe GmbH General Terms and Conditions of Sale apply.

## Description of BuildStar & MakeStar software (technical data & features) and Specification

Version	Change history	Approved & Issued
V01	New release	Date: Oct. 08, 2018
V02	Adding LogView, description of FScal	Date: July 01, 2019
V03	Adding descriptions of Material Config Files	Date: Aug 23, 2019

### Product description:

With purchasing a Farsoon machine, Farsoon customers receive a life-time license on following Farsoon software:

- Farsoon BuildStar® Build Preparation Software
- Farsoon MakeStar® Machine Control Software
- Farsoon LogView

Key Software Features:

- Manual and automatic control modes, real-time build parameter modification, three-dimensional visualization, diagnostic functions

Life-time license means the software is property of the customer, registration will be valid without expiry date. Software updates and upgrades might be for sell.

### Farsoon BuildStar® Build Preparation Software

- The Buildstar® software is a complete build preparation tool which allows for the creation of build files using imported 3d models.
- The Buildstar® software features a wide range of functions including model manipulation, measurements, build estimates, and support generation.
- Once the build file is prepared, Buildstar® can export this file to Farsoon's Makestar® machine control software to printing the file.
- Main features:
  - Layout (translate, rotation, etc)
  - Scaling
  - Part preview
  - Support generating
  - Compensation & calibration
  - Parameters setting
  - Collision detection
  - Material & time estimation
  - Scan path preview
  - Measuring

### Farsoon MakeStar® Machine Control Software

- The MakeStar® machine control software gives full control of Farsoon's plastic and metal laser sintering systems to the user.
- The MakeStar software package features real-time monitoring of the build environment. Temperature control, laser power, and many other factors can all be monitored and reviewed by the user.

## Description of BuildStar & MakeStar software and Specification

Version	Change history	Approved & Issued
V03	Adding descriptions of Material Config Files	Date: Aug 23, 2019

- MakeStar is a powerful fully open software platform including over 100 user adjustable parameters.
- Main Features:
  - Streamlined touch screen control
  - Expert mode control
  - Interchangeable expert mode and production mode
  - Manual operation
  - Real-time parameters
  - Modification
  - Real-time data monitoring
  - Remote monitoring
  - Real-time data displaying & recording
  - Intelligent powder feeding
  - Eight-Zone temperature control
  - Adding or deleting parts online

### Material Config Files:

Farsoon BuildStar and MakeStar software contains so-called Material Config Files. These files consist of the settings of the parameters for fabricating parts with specific powders. Farsoon provide these Material Config Files after testing the powders in-house. However, the parameters settings are not optimized for achieving specific properties of the parts or for optimal productivity of the parts' fabrication. Farsoon is not liable on the results when operators use these Material Config Files.

An Addendum to this Specification Data Sheet summarizes which Material Config Files are delivered with the machines' software.

### Farsoon LogView Recording & Viewing of Processing Data

- Recording and viewing of the chart data and text data during the build process.
- Chart data includes build chamber temperature, feed chamber temperature, build cylinder wall temperature, piston temperature, oxygen level, etc.
- Text data includes messages delivered between the software modules, etc.
- Production documentation for industrial additive manufacturing process.
- Real-time monitoring for quick diagnosis during building process.
- Ability to review, analysis the processing data for best performance of the machine and materials, relevant for material development.

Farsoon does not sell the software **FScal** (for machine calibration), which Farsoon could install on the machine's computer. This software is for rent, purchase price of the MakeStar software includes the renting fee for 1 year after installation. Purchasing maintenance or calibration services from Farsoon, includes the renting of FScal for another 6 months. The access to FScal is password protected, third parties needs authorization from Farsoon to use FScal.

Farsoon does not take responsibility for anti-virus software on the machine computer.

## Description of BuildStar & MakeStar software and Specification

Version	Change history	Approved & Issued
V03	Adding descriptions of Material Config Files	Date: Aug 23, 2019

### Further Information:

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E-Mail: [wehelpyou@farsoon-eu.com](mailto:wehelpyou@farsoon-eu.com)

### Disclaimer:

Many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either express or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or designs, data or information set forth, or that the products, designs, data or information may be used without infringing the intellectual property rights of others. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

In no case shall the descriptions, information, data or designs provided by considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the descriptions, designs, data and information furnished by Farsoon hereunder are provided gratis and Farsoon assumes no obligation or liability for the description, designs, data and information given or results obtained, all such being given and accepted at your risk.


## Affidavit

Public Contract name:	System of equipment for additive manufacturing using the SLM and SLS technologies
Registered company name / Trade name / Name:	Farsoon Europe GmbH
Seat:	Liebkechtstr. 33, D-70565 Stuttgart, Germany
Company Identification No.:	Handelsregister Stuttgart HRB 765216

The Supplier of the above-mentioned Public Contract undertakes to:

- a) ensure compliance with all labour law regulations (concerning remuneration, working hours, rest periods between shifts, paid overtime), as well as regulations concerning employment and safety and health protection for the entire duration of the contractual relationship established on the basis of this Public Contract, to all persons involved in the performance of the contract (regardless of whether the activities will be performed by the Supplier himself or his subcontractors) and
- b) ensure compliance with legal regulations in the field of environmental law, which meets the objectives of environmental policy related to climate change, use of resources and sustainable consumption and production. The Supplier must therefore take all measures that can reasonably be required of him to protect the environment and reduce the damage caused by pollution, noise and other activities, and must ensure that emissions, soil pollution and waste water from his activities do not exceed the values laid down in the relevant legislation.

At the same time, the Supplier acknowledges that a breach of the above obligations may be a reason for the Contracting Authority to withdraw from the contract in accordance with its relevant provisions.

<b>Signature of the person authorized to represent the Supplier:</b>	
Place:	Stuttgart, Germany
Date:	20 January 2023
First name, Surname, Position in the company:	Dr. Dirk Simon, Managing Director
Signature:	

**FARSOON Europe GmbH**  
 Dr. Dirk SIMON  
 Liebkechtstr. 33  
 D-70565 Stuttgart  
 Tel. +49 711 137 960



#### Annex No. 4

##### Test print parameters (for both SLM and SLS technology)

- size 120x120x60 mm (XYZ)
- elements that the printout must contain:
  - internal thread M5x0.8 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - internal thread M6x1 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - internal thread M8x1.25 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - internal thread M10x1.5 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - external thread M5x0.8 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - external thread M6x1 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - external thread M8x1.25 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - external thread M10x1.5 (always 1x in the direction of the X, Y and Z axes, 3 times in total)
  - pins with a diameter of 0.25; 0.5; 1.5; 3 mm and a height of 15 mm
  - ribs with a wall thickness of 0.25; 0.5; 1; 1.5; 2; 3 mm and a height of 15 mm
  - gradually tapering ribs in the direction of the Z axis with a base of 0.25; 0.5; 1; 1.5; 2; 3 mm and a height of 15 mm
  - thin-walled structure, e.g. the so-called GYROID structure
  - a free overhang successively forming an angle of 40°, 30°, 20° and 10° with the XY plane

Data for printing (in .stl format) is available and can be provided.



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